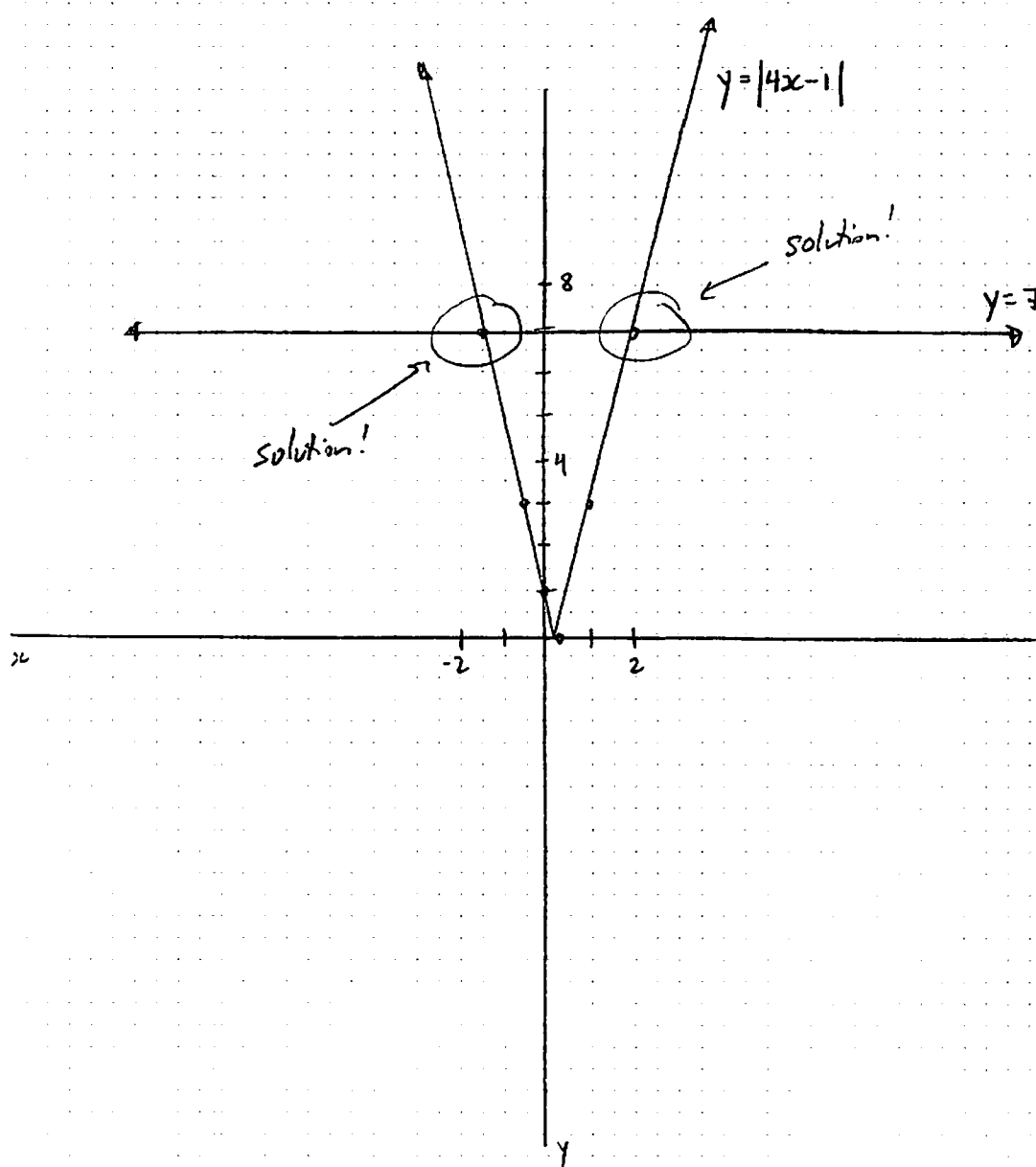


Assignment #5

1. Solve the equation below by graphing. You may use Geogebra; you may find the table helpful when you are moving the graphs from Geogebra to the graph paper below. Mark your axes with an appropriate scale and **use a ruler!** Show the solution to the equation on the graph, and then write and circle your answer.

$$|4x - 1| = 7 \quad \text{LHS: } y = |4x - 1| \quad \text{RHS: } y = 7$$



x	y
0	1
1/4	0
1	3
2	7
-1.5	7

$x = -1.5$
 or
 $x = 2$

Label your graph with an appropriate scale that is large enough to be accurate and readable.

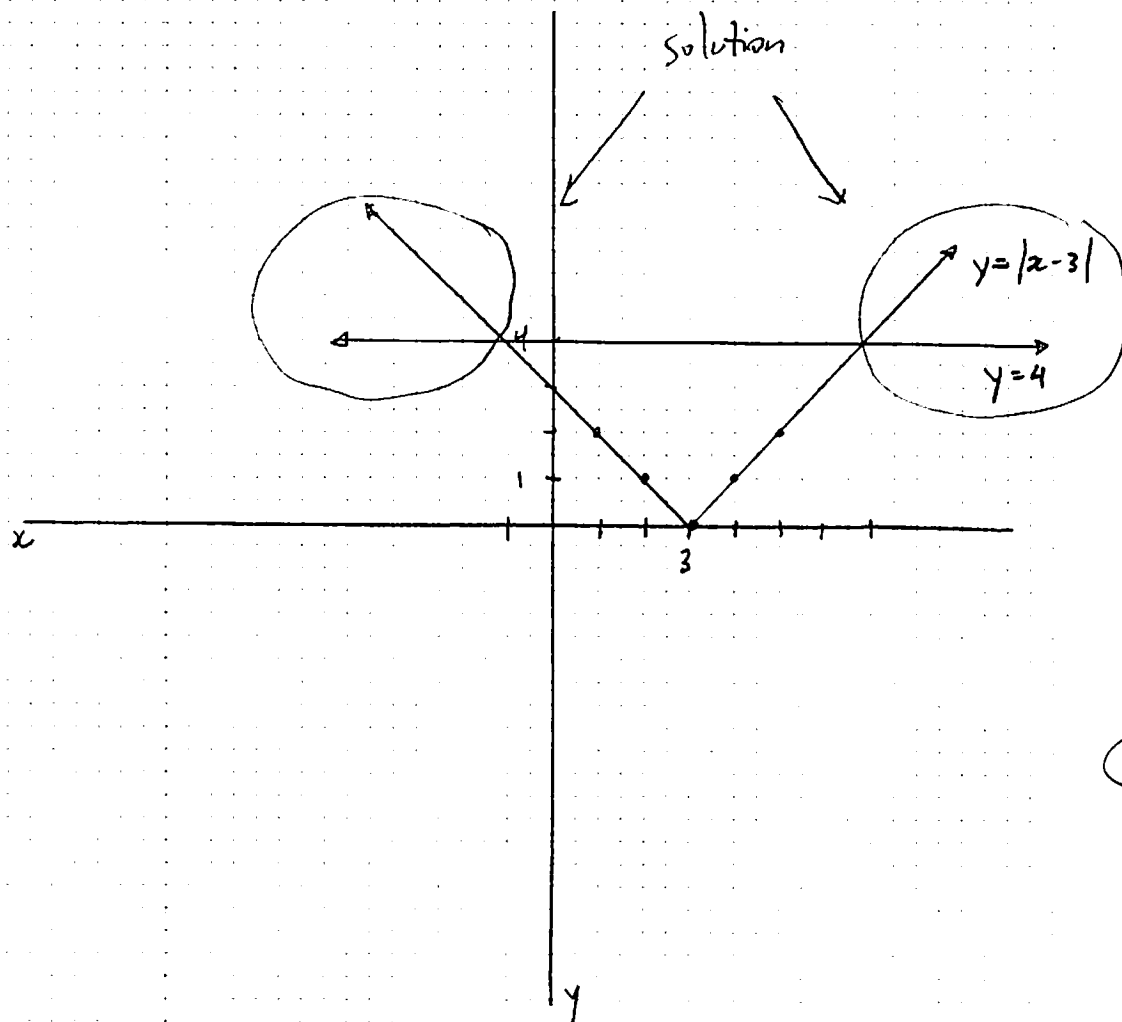
GRAPHING

2. Solve the inequality below by graphing. You may use Geogebra; you may find the table helpful when you are moving the graphs from Geogebra to the graph paper below. Mark your axes with an appropriate scale and use a ruler! Show the solution to the inequality on the graph, and then write and circle your answer.

$$|x-3| > 4$$

$$\text{LHS: } y = |x-3|$$

$$\text{RHS: } y = 4$$



x	y
3	0
4	1
5	2
2	1
1	2
-1	4
7	4

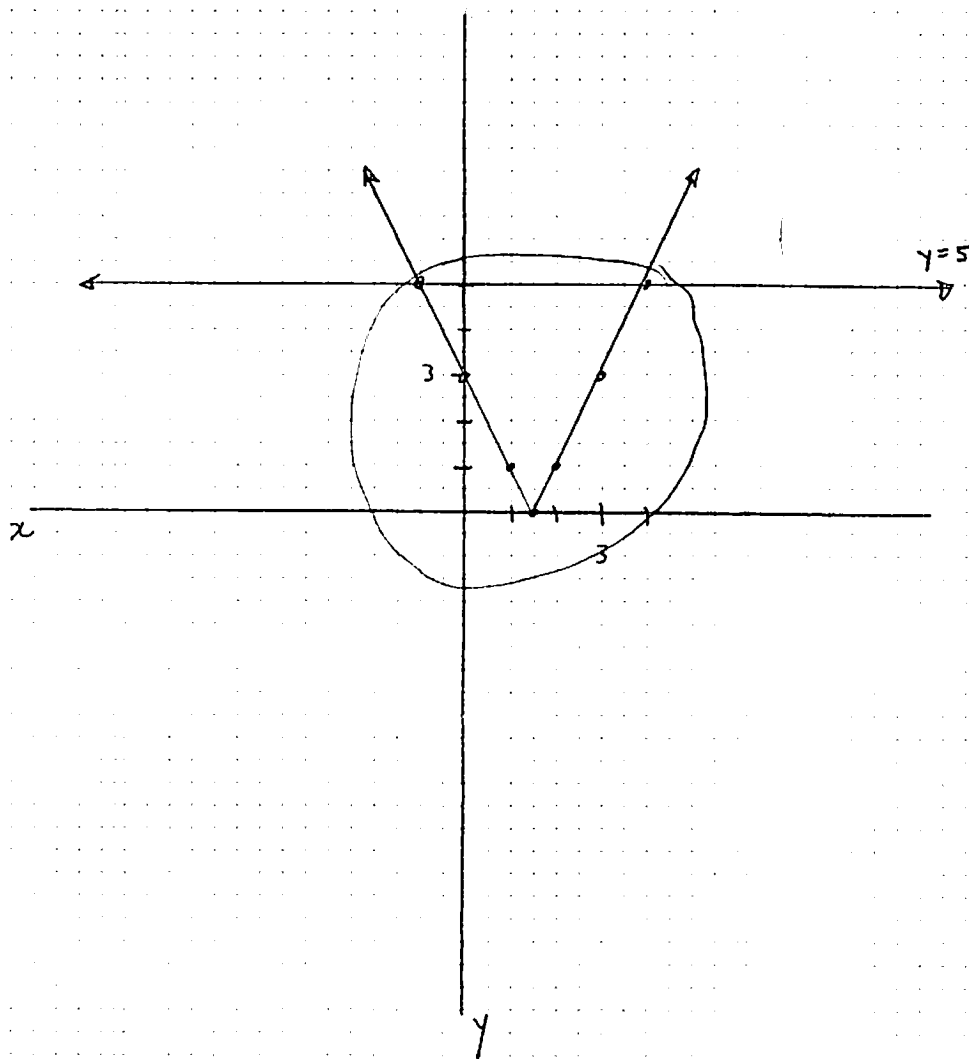
$$x > 7 \text{ or } x < -1$$

Label your graph with an appropriate scale that is large enough to be accurate and readable.

GRAPHING

3. Solve the inequality below by graphing. You may use Geogebra; you may find the table helpful when you are moving the graphs from Geogebra to the graph paper below. Mark your axes with an appropriate scale and use a ruler! Show the solution to the inequality on the graph, and then write and circle your answer.

$$|2x - 3| \leq 5 \quad \text{LHS: } y = |2x - 3| \quad \text{RHS: } y = 5$$



x	y
1.5	0
1	1
0	3
2	1
3	3
4	5

$$-1 \leq x \leq 4$$

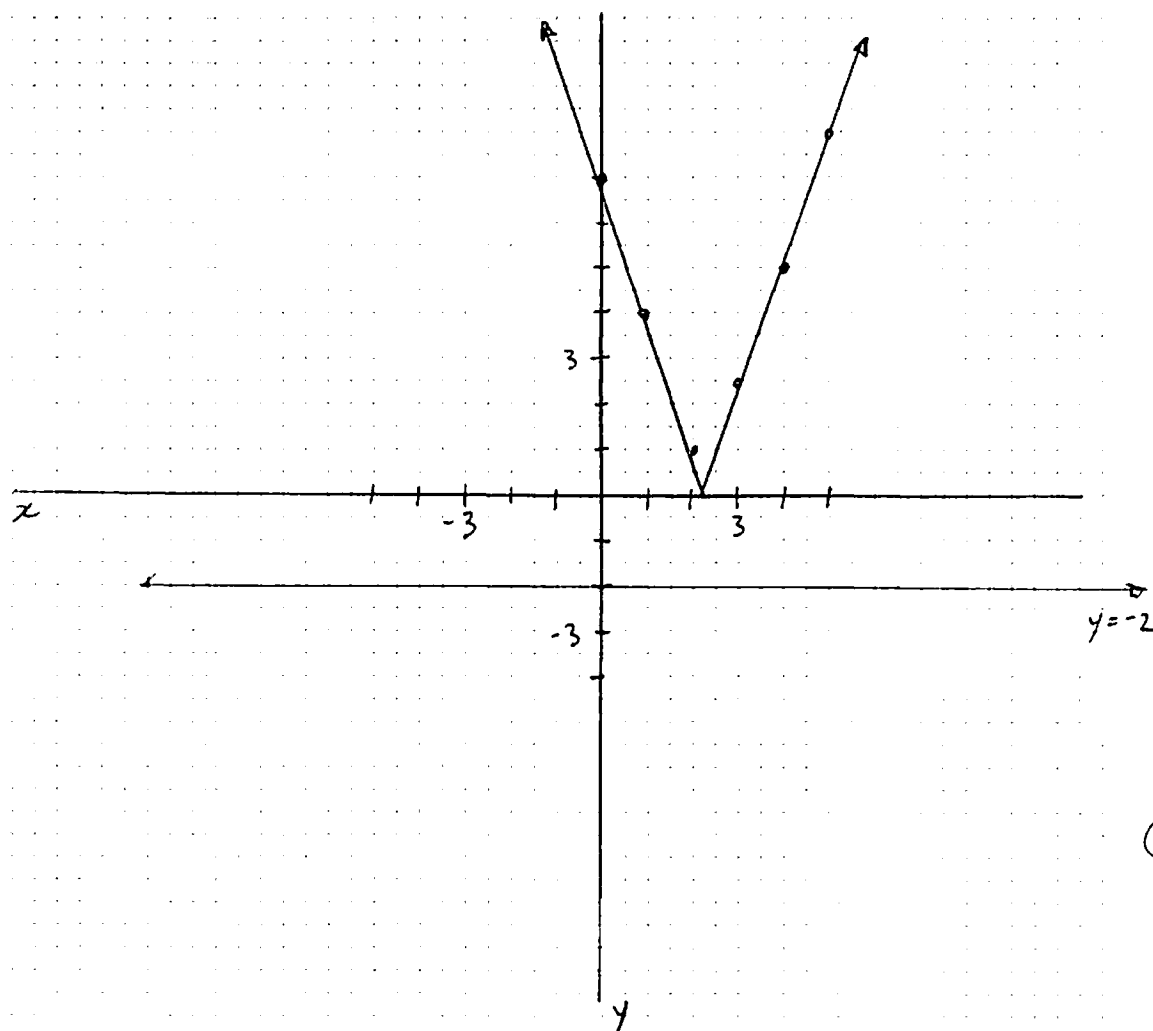
Label your graph with an appropriate scale that is large enough to be accurate and readable.

GRAPHING

4. Solve the inequality below by graphing. You may use Geogebra; you may find the table helpful when you are moving the graphs from Geogebra to the graph paper below. Mark your axes with an appropriate scale and use a ruler! Show the solution to the inequality on the graph, and then write and circle your answer.

$$|3x - 7| < -2$$

$$\text{LHS: } y = |3x - 7| \quad \text{RHS: } y = -2$$



x	y
0	7
1	4
2	1
3	2
4	5
5	8

No solution -
the V is never
below the line.

Label your graph with an appropriate scale that is large enough to be accurate and readable.

TABLE

1. Make a table to solve this problem. Write the problem and include at least 20 values in your table. You may use Numbers to help you make the table. Show the solution to the equation on the table, and then write and circle your answer.

$$|4x - 1| = 7$$

x	LHS	RHS
-5	21	7
-4.5	19	7
-4	17	7
-3.5	15	7
-3	13	7
-2.5	11	7
-2	9	7
-1.5	7	7
-1	5	7
-0.5	3	7
0	1	7
0.5	1	7
1	3	7
1.5	5	7
2	7	7
2.5	9	7
3	11	7
3.5	13	7
4	15	7
4.5	17	7
5	19	7

$$x = 2 \text{ or } x = -1.5$$

2. Make a table to solve this problem. Write the problem and include at least 20 values in your table. You may use Numbers to help you make the table. Show the solution to the inequality on the table, and then write and circle your answer.

$$|x - 3| > 4$$

x	LHS	RHS
-10	13	4
-9	12	4
-8	11	4
-7	10	4
-6	9	4
-5	8	4
-4	7	4
-3	6	4
-2	5	4
-1	4	4
0	3	4
1	2	4
2	1	4
3	0	4
4	1	4
5	2	4
6	3	4
7	4	4
8	5	4
9	6	4
10	7	4

$$x < -1 \text{ or } x > 7$$

3. Make a table to solve this problem. Write the problem and include at least 20 values in your table. You may use Numbers to help you make the table. Show the solution to the inequality on the table, and then write and circle your answer.

$$|2x - 3| \leq 5$$

x	LHS	RHS
-10	23	5
-9	21	5
-8	19	5
-7	17	5
-6	15	5
-5	13	5
-4	11	5
-3	9	5
-2	7	5
-1	5	5
0	3	5
1	1	5
2	1	5
3	3	5
4	5	5
5	7	5
6	9	5
7	11	5
8	13	5
9	15	5
10	17	5

$$-1 \leq x \leq 4$$

4. Make a table to solve this problem. Write the problem and include at least 20 values in your table. You may use Numbers to help you make the table. Show the solution to the inequality on the table, and then write and circle your answer.

$$|3x - 7| < -2$$

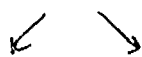
x	LHS	RHS
-10	37	-2
-9	34	-2
-8	31	-2
-7	28	-2
-6	25	-2
-5	22	-2
-4	19	-2
-3	16	-2
-2	13	-2
-1	10	-2
0	7	-2
1	4	-2
2	1	-2
3	2	-2
4	5	-2
5	8	-2
6	11	-2
7	14	-2
8	17	-2
9	20	-2
10	23	-2

Never!

No solution

1. Use your algebra skills to solve this problem. Write the problem and show all steps clearly. Circle your answer.

$$|4x - 1| = 7$$



$$4x - 1 = 7$$

$$4x - 1 = -7$$

$$\begin{array}{r} 4x - 1 = 7 \\ +1 \quad +1 \\ \hline \end{array}$$

$$\begin{array}{r} 4x - 1 = -7 \\ +1 \quad +1 \\ \hline \end{array}$$

$$\frac{4x}{4} = \frac{8}{4}$$

$$\frac{4x}{4} = \frac{-6}{4}$$

$$x = 2 \quad \text{or} \quad x = -1.5$$

2. Use your algebra skills to solve this problem. Write the problem and show all steps clearly. Circle your answer.

$$|x - 3| > 4$$



$$x - 3 > 4$$

or

$$x - 3 < -4$$

$$\begin{array}{r} x - 3 > 4 \\ +3 \quad +3 \\ \hline \end{array}$$

$$\begin{array}{r} x - 3 < -4 \\ +3 \quad +3 \\ \hline \end{array}$$

$$x > 7 \quad \text{or} \quad x < -1$$

3. Use your algebra skills to solve this problem. Write the problem and show all steps clearly. Circle your answer.

$$|2x - 3| \leq 5$$

$$\begin{array}{ccc} -5 \leq 2x - 3 \leq 5 \\ +3 \quad \quad +3 \quad +3 \end{array}$$

$$\begin{array}{ccc} -2 \leq 2x \leq 8 \\ \div 2 \quad \quad \div 2 \quad \div 2 \end{array}$$

$$-1 \leq x \leq 4$$

4. Use your algebra skills to solve this problem. Write the problem and show all steps clearly. Circle your answer.

$$|3x - 7| < -2$$

↑
This is positive so it is never less than -2.

So, no solution.